

indicates that the leading end portion of the guide rod or tracheal tube has been moved to a desired position relative to the patient's trachea.

It is believed that transmission of an image of body tissue adjacent to the leading end portion of the tracheal tube **38**, **238** may advantageously be performed when the tracheal tube is utilized without benefit of the positioning apparatus **56**, **256**. However, the transmission of an image of body tissue adjacent to the leading end portion of the tracheal tube **38**, **238** may be performed when the positioning apparatus is used in association with the tracheal tube. Positioning of the guide rod **50**, **250** relative to the patient's trachea may also be facilitated by the transmitting of images of body tissue adjacent to a leading end portion of the guide rod.

Detectors and emitters **424**, **426** may be utilized to detect the position of the leading end portion of the guide rod **50**, **250** and/or the tracheal tube **38**, **238** relative to the patient's trachea. When this is done, an emitter **424**, such as a magnet or a light source, may be connected with a leading end portion **52**, **252** of the guide rod **50**, **250** and/or the tracheal tube **38**, **238**. One or more detectors **426** may be provided on the outside of the patient's neck to detect the output from the emitter **424** when the guide rod **50**, **250** and/or the tracheal tube **38**, **238** are in a desired position relative to the patient's trachea. Alternatively, a detector **426** may be connected with the leading end portion of a guide rod **50**, **250** and/or tracheal tube **38**, **238** and one or more emitters **424** positioned relative to the outside of the patient's neck. The detector **426** would provide an output indicating when the guide rod **50**, **250** and/or tracheal tube **38**, **238** is moved to a desired position relative to the patient's trachea.

During movement of the guide rod **50**, **250** and/or tracheal tube **38**, **238** along the patient's respiratory system and into the patient's trachea, force may be applied against the leading end portion **52**, **252** of the guide rod and/or tracheal tube to steer the leading end portion of the guide rod and/or tracheal tube. The application of force against the leading end portion **52**, **252** of the guide rod **50**, **250** and/or tracheal tube **38**, **238** may be accomplished by expanding an expandable element **464**—**468** connected with the guide rod **50**, **250** and/or the tracheal tube **38**, **238**.

It should be understood that any one of the features of the present invention may be used separately or in combination with other features of the invention. It's believed that various combinations of the features, other than those disclosed herein, may advantageously be utilized and will be apparent to those skilled in the art from the description contained herein. In addition, it should be understood that features of the present invention may be used for purposes other than tracheal intubation. From the above description of the invention, those skilled in the art will perceive improvements, changes and modifications. Such improvements, changes and modifications within the skill of the art are intended to be covered by the appended claims.

What is claimed is:

1. A method of tracheal intubation, said method comprising the steps of positioning a plurality of detectors in an array adjacent to an outer surface of a patient's neck, locating a positioning apparatus relative to the patient's trachea, moving a guide rod relative to the patient's respiratory system along an insertion path which extends from the patient's pharynx, through the patient's larynx and into the patient's trachea, emitting an output at a leading end portion of the guide rod as the guide rod moves along the insertion path, detecting the output emitted at the leading end portion of the guide rod with detectors of the plurality of detectors, determining the position of the leading end

portion of the guide rod along the insertion path as a function of the relationship of the emitted output detected by one of the plurality of detectors to the emitted output detected by another detector of the plurality of detectors, moving a tracheal tube relative to the patient's respiratory system along the insertion path by moving the tracheal tube along the guide rod, emitting an output at a leading end portion of the tracheal tube as the tracheal tube moves along the insertion path, detecting the output emitted at the leading end portion of the tracheal tube with detectors of the plurality of detectors, and determining the position of the leading end portion of the tracheal tube along the insertion path as a function of the relationship of the emitted output detected by one detector of the plurality of detectors to the emitted output detected by another detector of the plurality of detectors.

2. A method as set forth in claim 1 wherein said step of locating the positioning apparatus relative to the patient's trachea includes engaging the patient's Adam's apple with the positioning apparatus.

3. A method as set forth in claim 2 wherein said step of positioning a plurality of detectors in an array adjacent to an outer surface of the patient's neck includes positioning the detectors adjacent to the patient's Adam's apple.

4. A method as set forth in claim 1 further including the steps of providing a display illustrating a position of the leading end portion of the guide rod relative to the patient's trachea and a position of a leading end portion of the tracheal tube relative to the patient's trachea during at least a portion of said step of moving the tracheal tube along the guide rod.

5. A method as set forth in claim 1 further including the step of providing a display illustrating a position of the leading end portion of the guide rod relative to the patient's trachea during at least a portion of said step of moving the guide rod relative to the patient's respiratory system.

6. A method of tracheal intubation, said method comprising the steps of positioning a plurality of detectors in an array adjacent to an outer surface of a patient's neck, moving a tracheal tube relative to the patient's respiratory system along an insertion path which extends from the patient's pharynx, through the patient's larynx and into the patient's trachea, emitting an output at a leading end portion of the tracheal tube as the tracheal tube moves along the insertion path, detecting the output emitted at the leading end portion of the tracheal tube with detectors of the plurality of detectors, and determining the position of the leading end portion of the tracheal tube along the insertion path as a function of the relationship of the emitted output detected by one detector of the plurality of detectors to the emitted output detected by another detector of the plurality of detectors,

wherein said step of emitting an output at a leading end portion of the tracheal tube includes emitting light at the leading end portion of the tracheal tube.

7. A method of tracheal intubation, said method comprising the steps of positioning a plurality of detectors in an array adjacent to an outer surface of a patient's neck, moving a tracheal tube relative to the patient's respiratory system along an insertion path which extends from the patient's pharynx, through the patient's larynx and into the patient's trachea, emitting an output at a leading end portion of the tracheal tube as the tracheal tube moves along the insertion path, detecting the output emitted at the leading end portion of the tracheal tube with detectors of the plurality of detectors, and determining the position of the leading end portion of the tracheal tube along the insertion path as a function of the relationship of the emitted output detected by